*Staphylococcus aureus* ("staph") bacteria exist in air, dust, sewage, milk and food, and on environmental surfaces. Although other animals can also carry the bacteria, humans are almost always the source. At least 30-50% of healthy people carry the bacteria. The bacteria are commonly found in the nose, but can also come from the throat, hands, feces, hair, pimples, boils and abrasions on the skin. Staph causes a variety of infections and intoxications (poisonings) in people. It causes skin ailments such as boils, sties and impetigo; serious illnesses like toxic shock syndrome; and often causes infections of surgical wounds.

## *Staphylococcus aureus* and food

Staph bacteria are also a major cause of food poisoning. Foodworkers coughing, sneezing, or with poor handwashing habits in the kitchen can spread *S. aureus* to food. If the food is held at improper temperatures, the bacteria can grow and produce a toxin. Neither the bacteria nor the toxin wil alter the smell, taste or appearance of the food. **Once formed, the toxin is not destroyed by cooking or boiling.**

Unlike many other bacteria, staph are very tolerant of salt and sugar and can grow over a wide range of pH (4.5-7.0) and temperatures (44°F-122°F). The bacteria also survive freezing temperatures. To prevent staph growth and toxin formation, keep potentially hazardous foods (especially *cooked* foods) out of the Danger Zone (45°-140°F).

## Symptoms of Foodborne Staph Poisoning

Eating food contaminated with toxin can cause inflammation and irritation of the stomach and intestine in all people. An incubation period (period of time from eating the food until symptoms first occur) can be minutes, but is usually 2-4 hours.

The most common symptoms of staph poisoning are severe nausea, vomiting, abdominal cramping, and fatigue. Diarrhea can also occur. Deaths are very rare, but the symptoms may require hospitalization. The illness usually lasts 1-2 days.

## Foods Often Linked to Staph Poisoning:

**Cooked, High Protein** — *Cooked* meats, poultry, eggs, tuna and seafood; cream pastries and pies; milk and dairy products. [*Uncooked* foods generally have bacteria that out-compete for nutrients and prevent *S. aureus* from growing.]

**Handled Often** — Foods (including potato and pasta salads) that require considerable handling--like slicing, grinding, mixing, shaping, deboning--can get contaminated from either an infected foodworker or contaminated utensils.

**Temperature Abused** — Foods held in the Danger Zone (45°F-140°F) allow the bacteria to grow and produce toxin. Improper temperatures include foods held at room temperature after preparation, foods left on the counter overnight or allowed to cool slowly, or foods held in equipment that does not keep the food hot or cold as necessary.

**A common scenario for transmission...** of staph poisoning occurs when food workers sneeze onto their hands, touch an infected cut or pick at acne. Without adequate handwashing, the foodworkers then dice cooked chicken for chicken salad and mix the ingredients by hand without a spoon. After several hours on the counter at room temperature, the microscopic bacteria have grown to millions and produced taste-less toxins. The chicken salad looks, smells and tastes great and is served. A few hours after dinner, however, everyone is nauseous and vomiting.

### What went wrong in the above scenario?

- Food workers should use tissues *and* wash their hands after sneezing. (All employees with vomiting, diarrhea, or infected cuts on the hands are required to stay away from food service until clear of infection.)
- Ready to eat foods should be handled with barriers (gloves, tongs, spoons, etc.).
- All Potentialy Hazardous Foods must be held out of the Danger Zone (45° F-140°F) to keep bacteria from growing.

## Personal Hygiene Tips

The key to prevent illness is to prevent contamination of food. Handwashing and personal cleanliness is an important control measure in preventing food contamination with *Staphylococcus aureus*. Always wash your hands before handling food and after using the restroom. Proper handwashing involves the following steps:

- **Get** the paper towel ready
- **Wet** hands with warm water
- Use liquid or powdered **soap**
- **Scrub** hands, including fingernails, thoroughly with soapy lather for at least 15 seconds
- **Rinse** hands with warm, running water for at least 15 seconds
- **Dry** hands with a paper towel


## Other measures that will help prevent food contamination:

- Wash your hands thoroughly after going to the bathroom, smoking or eating.
- Avoid touching or scratching your mouth, nose, hair and skin infections.
- Cover up coughs and sneezes with a tissue (or cough/ sneeze into your shirt sleeve on your shoulder) and wash your hands.
- Keep yourself clean: bathe or shower regularly and wash your hands often.

## *Staphylococcus aureus* Control Methods

**Personal Hygiene** Foodworkers should wash their hands frequently and effectively. When working with food, use clean working habits and avoid touching the skin.

**Illness Policy** Foodworkers with respiratory illness (frequent sneezing, coughing) or skin eruptions and abrasions are a potential hazard for food safety. These people should limit their foodhandling until their symptoms are gone. Foodworkers with infected cuts, diarrhea or vomiting are NOT permitted to work with food in a public food service establishment.

**Food Handling** Handle foods with clean utensils, not your bare hands. When gloves are used, they must be changed often and the hands washed each time.

**Temperature Control** Reduce food handling time (from beginning preparation to service) to an absolute minimum—and no more than 2 hours at room temperature. Keep cooked foods 140°F or hotter. Formation of the toxin is prevented when foods are kept out of the danger zone (45° F-140°F). If formed, the toxin will not be destroyed by heating the food.

**Cooling** Leftovers should be cooled quickly (in less than 4 hours); use uncovered shallow pans rather than deep pots. Once cooled, leftovers should be reheated to at least 165°F. To help ensure food safety, reheat leftovers only once and then use or discard.

**Equipment Sanitation** Food-contact surfaces, equipment, and utensils should be washed, rinsed and sanitized regularly.

### Cleaning and Sanitizing

Cleaning and sanitizing often is important to reduce the number of germs on counters and equipment that are used for food preparation. Clean and rinse the surfaces of counters, cutting boards, and utensils before using a sanitizing solution.

**To prepare a bleach and water sanitizer: mix 1 teaspoon of bleach per gallon of cool water.**

Sanitizer can be mixed in a bucket. Clean sanitizing cloths should be returned to the solution often during use and stored in the solution when not in use. The solution will need to be changed every few hours (the bleach evaporates) or as the solution gets greasy or dirty.

Bleach solutions can also be put into air-tight spray bottles. When using spray bottles, fresh bleach solution should be made daily because bleach loses its effectiveness over time.

To use: spray or wipe the solution on a clean surface, let it stand for at least one minute, allow it to air dry, or wipe it off with a paper towel.

### For More Information:

**Benton-Franklin Health District**
Environmental Health Division
800 W. Canal Dr.
Kennewick, WA 99336
(509) 582-7761 ext. 246 **www.bfhd.wa.gov**

**Other related brochures available:**
The Ill Foodworker
Handwashing

**Websites:**
Centers for Disease Control and Prevention
www.cdc.gov

FDA's Bad Bug Book
http://vm.cfsan.fda.gov/~mow/intro.html

BFHD-E-0005 (03/03)

# Staphylococcus aureus

**facts about germs series**


**www.bfhd.wa.gov**

PUBLIC HEALTH
Prevent • Promote • Protect
BENTON-FRANKLIN HEALTH DISTRICT